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ABSTRACT

The invention provides a diffusing plate with the angle of diffusion controllable within a desired range by use of a hologram, which is capable of presenting bright displays so that it is applicable to, for instance, a backlighting diffusing plate for liquid crystal display device. A diffusing plate 2 having an angle of diffusion θ is brought into close contact with a hologram photosensitive material 1. Then, parallel light 3 is obliquely at an angle of incidence α on the photosensitive material 1 while parallel light 4 is vertically incident on the diffusing plate 2. Thereupon, parallel light 4 is converted into diffused light 5 having an angle of diffraction θ upon passing through the diffusing plate 2. Diffused light 5 interferes with obliquely incident parallel light 3 from the opposite direction in photosensitive material 1 to produce interference fringes, thereby forming a reflection type hologram. Upon parallel illumination light on the hologram at the same angle of incidence α at which parallel light 3 strikes for recording, diffused light having the same angle of diffraction θ as that of diffused light 5 used for recording is reflected, and diffracted from this reflection type hologram.

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